



United States
Department of
Agriculture

Forest
Service

Pacific
Southwest
Region

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R93-800
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Reply To: 3420

Date: JUL 01 1993

Subject: Biological Evaluation of Pine Decline at Brush Mountain
(FPM Rpt. No. R93-6)

To: Richard Burns, Area Manager, Bureau of Land Management

At the request of BLM forester Jim Francis, Alturas, pathologist John Kliejunas visited portions of BLM land in the vicinity of Brush Mountain (T.35N., R.4E., Sec. 6) on June 21, 1991. Jim suspected drought and subsequent bark beetle attack as the cause of Jeffrey pine mortality in the area, but requested examination of the area by Forest Pest Management for possible occurrence of black stain root disease.

Observations

Overstory vegetation on the approximately 3,000 ft elevation site is comprised of mostly pole and small timber-sized Jeffrey pine, several species of oak, and a few scattered juniper. Understory is mostly manzanita, bitterbrush and grasses.

Dieback of Jeffrey pines, ranging from trees with thin and chlorotic crowns, to yellowing of needles, to mortality, was common throughout the Section. Twig and branch dieback of some of the oaks and manzanita was also observed. Insects associated with the declining and dead Jeffrey pines included flatheaded borers (Melanophila californica) and turpentine beetles (Dendroctonus valens). No other bark beetles were observed on the trees examined. The only pathogen observed was western dwarf mistletoe (Arceuthobium campylopodum). Infestation of the dwarf mistletoe was generally light, consisting of scattered brooms in the lower crowns of the trees. No black stain root disease, caused by Leptographium wagnerii, was observed on the declining pines examined.

Conclusions

The dieback and decline of the vegetation on the site is most likely due to the drought conditions over the last 7 years, followed by attack by turpentine beetles and flatheaded borers. The dwarf mistletoe present in the area is an additional stress factor contributing to the decline of the pines. If Leptographium wagnerii is present, it is only at low levels and was not observed associated with the declining trees examined. Similar decline of vegetation is



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present in surrounding areas, suggesting that a widespread environmental stress factor, such as severe soil moisture deficiency, is the primary cause.

If you have additional questions regarding this evaluation, please contact John Kliejunas of my Staff at (415) 705-2571.

John E. Neisess
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